**PATENT** 

# INITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Wellington, et al.

Serial No.: 09/841,240

Filed: April 24, 2001

For:

IN SITU THERMAL PROCESSING

OF A HYDROCARBON CONTAINING

FORMATION TO PRODUCE A

SELECTED MIXTURE

Examiner: Unknown

Group Art Unit: 1764

Atty. Dkt: 5659-03500

Certificate of Mailing 37 C.F.R. § 1.8(a)

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail, postage prepaid, in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on the

date below:

## INFORMATION DISCLOSURE STATEMENT

§

Commissioner for Patents Washington, D.C. 20231

Sir:

TO A POOR TO It is respectfully requested that this Information Disclosure Statement be entered and documents listed on attached Form PTO-1449 (references A1-A256 and B1) be considered by the Examiner and made of record. Copies of the listed documents are enclosed for the convenience of the Examiner.

Should any fees be required, the Commissioner is authorized to charge said fees to Conley, Rose & Tayon, P.C. Deposit Account No. 50-1505/5659-03500/PBM.

Respectfully submitted,

Eric B. Meyertons Reg. No. 34,876

Attorney for Applicant(s)

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CONLEY, ROSE & TAYON, P.C. P.O. BOX 398 **AUSTIN, TEXAS 78767-0398** (512) 476-1400 (voice) (512) 703-1250 (facsimile)

Form PTO-1449 (modified) List of Patents and Publications

For Applicant's Information Disclosure Statement

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JAN 0 3 2002

ATTY. DKT. NO. 5659-03500/TH1960

APPLICANT: Wellington, et al.

GROUP: 1764

SERIAL NO. 09/841,240

FILING DATE: April 24, 2001

		E SU	U.S. PATENT	DOCUMENTS			
EXAM. INITIALS	REF. DES.	DOCUME AUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	Al	760,304	05/1904	Butler			
	A2	1,342,741	06/1920	Day			<b>%</b>
	A3	1,510,655	10/1924	Clark		V	, 'C,
•	A4	1,666,488	02/1927	Crawshaw		<b>&gt;</b>	1. 1/2
	A5	1,913,395	11/1929	Karrick		, C	2
	A6	2,423,674	07/1947	Agren		1	
	A7	2,444,755	07/1948	Steffen			90
	A8	2,466,945	02/1946	Greene			
	A9	2,472,445	06/1949	Sprong		<u> </u>	
	A10	2,484,063	10/1949	Ackley		DEC	
	A11	2,497,868	02/1950	Dalin		NEC	EIVED
	A12	2,548,360	04/1951	Germain		MAY	0 6 2002
	A13	2,593,477	04/1952	Newman et al.	(	ROL	JP 3600
	A14	2,595,979	05/1952	Pevere et al.		1100	3000
	A15	2,630,306	01/1952	Evans			
-	A16	2,634,961	04/1953	Ljungstrom			
	A17	2,642,943	06/1953	Smith et al.			
_	A18	2,670,802	03/1954	Ackley			
<del></del>	A19	2,695,163	11/1954	Pearce et al.			
	A20	2,732,195	01-24-56	Ljungstrom			
	A21	2,734,579	02-14-56	Elkins			
	A22	2,780,449	02-05-57	Fisher et al.			
	A23	2,777,679	01/1957	Ljungstrom			
	A24	2,780,450	02/1957	Ljungstrom			
	A25	2,786,660	03/1957	Alleman			
	A26	2,789,805	04/1957	Ljungstrom		ļ	
	A27	2,804,149	08/1957	Kile			
	A28	2,841,375	07/1958	Salomonsson			
	A29	2,902,270	09/1959	Salomonsson et al.		ļ	
	A30	2,906,337	09/1959	Henning			

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ATTY. DKT. NO. 5659-03500/TH1960

APPLICANT: Wellington, et al.

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EXAM.	REF.	DOCUMENT NUMBER	U.S. PATENT DATE	NAME	CLASS	SUB	FILING DATE IF
NITIALS_	DES.					CLASS	ROPRIATE
	A31	2,914,309	11/1959	Salomonsson			
	A32	2,923,535	02/1960	Ljungstrom			1.
	A33	2,939,689	06/1960	Ljungstrom		<b>'C</b>	W. SI
	A34	2,954,826	10/1960	Sievers			
	A35	2,974,937	03/1961	Kiel			<b>S</b>
	A36	2,994,376	08/1961	Crawford et al.			
	A37	2,998,457	08/1961	Paulsen			
	A38	3,004,603	10/1961	Rogers et al.		REC	EIVED_
	A39	3,007,521	11/1961	Trantham et al.		MAY	6 2002
	A40	3,095,031	06/1963	Eurenius et al.			
	A41	3,105,545	10/1963	Prats et al.	<u> </u>	ROL	P 3600
	A42	3,106,244	10/1963	Parker			
	A43	3,110,345	11/1963	Reed et al.			
	A44	3,113,623	12/1963	Krueger			
	A45	3,114,417	12/1963	McCarthy			
	A46	3,131,763	05/1964	Kunetka et al.		ļ	
	A47	3,139,928	07/1964	Broussard			
•	A48	3,142,336	07/1964	Doscher			
	A49	3,149,672	10/1964	Orkiszewski et al.		ļ	
•	A50	3,163,745	12/1964	Boston			
	A51	3,164,207	01/1965	Thessen et al.			
	A52	3,182,721	05/1965	Hardy			
	A53	3,183,675	05/1965	Schroeder			
	A54	3,191,679	06/1965	Miller			
	A55	3,205,946	10/1965	Prats et al.		ļ	
	A56	3,207,220	10/1965	Williams			
	A57	3,208,531	10/1965	Tamplen			
	A58	3,209,825	10/1965	Alexander et al.			
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ATTY. DKT. NO. 5659-03500/T11960

APPLICANT: Wellington, et al.

GROUP: 1764

SERIAL NO. 09/841,240

FILING DATE: April 24, 2001

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REF. DES.	DOCUMBARALIA	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF
A59	3,237,689	03/1966	Justheim			
A60	3,241,611	03/1966	Dougan		·	
A61		05/1966	Crider			S S
A62		08/1966	Schlumberger		C.	7. 003
A63		11/1966	Thomas			0
A64		08/1967	Cook			
A65		09/1970	Parker			
A66		07/1971	Miller et al.	B	FCF	IVED
A67		08/1976	Colgate		202	0 0000
A68		11/1975	Child			6 2002
A69			Garrett	G	ROU	P 3600
A70			Fenton			
A71						
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A87						
A88						
	DES. A59 A60 A61 A62 A63 A64 A65 A66 A67 A68 A69 A70 A71 A72 A73 A74 A75 A76 A77 A78 A78 A79 A80 A81 A82 A83 A84 A85 A86	REF. DES.         DOCUME 14 14 14 14 14 14 14 14 14 14 14 14 14	A59 3,237,689 03/1966 A60 3,241,611 03/1966 A61 3,250,327 05/1966 A62 3,267,680 08/1966 A63 3,284,281 11/1966 A64 3,338,306 08/1967 A65 3,528,501 09/1970 A66 3,595,082 07/1971 A67 3,973,628 08/1976 A68 3,992,148 11/1975 A69 3,993,132 11/1977 A70 4,016,239 04/1977 A71 4,076,761 02/1978 A72 4,089,372 05/1978 A73 4,093,026 06/1978 A74 4,096,163 06/1978 A75 4,130,575 12/1978 A76 4,133,825 01/1979 A77 4,138,442 02/1979 A78 4,186,801 02/1980 A79 4,250,230 02/1981 A80 4,250,962 02/1981 A81 4,273,188 06/1981 A82 4,274,487 06/1981 A83 4,299,086 11/1981 A84 4,299,285 11/1981 A85 4,363,361 12/1982 A86 4,363,361 12/1982 A87 4,366,668 01/1983	A59	A59	A59   3,237,689   03/1966   Justheim

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ATTY. DKT. NO. 5659-03500/TM-960

APPLICANT: Wellington, et al.

GROUP: 1764

SERIAL NO. 09/841,240

FILING DATE: April 24, 2001 **U.S. PATENT DOCUMENTS** 

EXAM. NITIALS	REF. DES.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
VITIALS	A89	4,381,641	05/1983	Madgavkar et al.		CLASS	L PARTICIALE
	A90	4,398,151	08/1983	Vinegar et al.		>	11
	A91	4,407,973	10/1983	van Dijk et al.		6	- 70 5
•	A92	4,409,090	10/1983	Hanson et al.		1	7
	A93	4,444,258	04/1984	Kalmar			0
•	A94	4,501,445	02/1985	Gregoli			
	A95	4,530,401	07/1985	Hartman et al.			
	A96	4,540,882	10/1985	Vinegar et al.		DEC	EIVED
	A97	4,542,648	10/1985	Vinegar et al.		nec	
	A98	4,570,715	02/1986	Van Meurs et al.		MAY	0 6 2002
	A99	4,571,491	02/1986	Vinegar et al.		GRO	JP 3600
	A100	4,572,299	02/1986	Vanegmond et al.			
<u> </u>	A101	4,583,046	04/1986	Vinegar et al.			
	A102	4,583,242	04/1986	Vinegar et al.			
	A103	4,594,468	06/1986	Minderhoud			
	A104	4,597,441	07/1986	Ware et al.			
	A105	4,605,680	08/1986	Beuther et al.			
	A106	4,613,754	09/1986	Vinegar et al.			
	A107	4,616,705	10/1986	Stegemeier et al.			
•	A108	4,635,197	01/1987	Vinegar et al.			
	A109	4,640,352	02/1987	Vanmeurs et al.			
	A110	4,644,283	02/1987	Vinegar et al.			
	A111	4,658,215	04/1987	Vinegar et al.			
	A112	4,663,711	05/1987	Vinegar et al.			
	A113	4,671,102	06/1987	Vinegar et al.			
	A114	4,716,960	01/1988	Eastlund et al.			
	A115	4,719,423	01/1988	Vinegar et al.			
	A116	4,728,892	03/1988	Vinegar et al.			
	A117	4,730,162	03/1988	Vinegar et al.			
	A118	4,743,854	05/1988	Vinegar et al.			

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PATENT DOCUMENTS

EXAM.	REF.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB	FILING DATE IF
XAM. NITIALS	DES.	DOCOMENT NOMBER	DAIL			CLASS	A PROPRIATE
	A119	4,762,425	08/1988	Shakkottai et al.			100 ×
<u> </u>	A120	4,769,602	09/1988	Vinegar et al.			AN.
	A121	4,769,606	09/1988	Vinegar et al.		1	* 20/12
•	A122	4,793,656	12/1988	Siddoway et al.			7>
	A123	4,827,761	05/1989	Vinegar et al.			00
•	A124	4,848,924	07/1989	Nuspl et al.		ļ	
	A125	4,856,341	08/1989	Vinegar et al.			
	A126	4,860,544	08/1989	Krieg et al.		KE	CEIVED
	A127	4,866,983	09/1989	Vinegar et al.		M.C	Y 0 6 2002
	A128	4,884,455	12/1989	Vinegar et al.		CDC	HID SEAR
	A129	4,886,118	12/1989	Van Meurs et al.		GHC	UP 3600
	A130	4,927,857	05/1990	McShea III et al.			
	A131	4,974,425	12/1990	Krieg et al.			
	A132	4,983,319	01/1991	Gregoli et al.			
	A133	4,984,594	01/1991	Vinegar et al.		<u> </u>	
	A134	4,987,368	01/1991	Vinegar			1
	A135	4,994,093	02/1991	Wetzel et al.			
	A136	5,014,788	05/1991	Puri et al.			
	A137	5,046,559	10/1991	Glandt			
	A138	5,050,386	09/1991	Krieg et al.			
	A139	5,060,287	10/1991	Van Egmond			
	A140	5,060,726	10/1991	Glandt et al.			
	A141	5,065,818	11/1991	Van Egmond			
	A142	5,168,927	12/1992	Stegemeier et al.			
	A143	5,189,283	02/1993	Carl, Jr. et al.			
	A144	5,190,405	03/1993	Vinegar et al.			
	A145	5,207,273	05/1993	Cates et al.			
	A146	5,211,230	05/1993	Ostapovich et al.			
	A147	5,226,961	07/1993	Nahm et al.			
	A148		07/1993	van Egmond et al.			

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APPLICANT: Wellington, et al.

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SERIAL NO. 09/841,240

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EXAM. INITIALS	REF. DES.	DOCUMENT NO MINISTRAL	DATE	NAME	CLASS	SUB CLASS	FILING DATE IN PPROPRIATE
	A149	5,236,039	08/1993	Edelstein et al.			75 002
	A150	5,255,742	10/1993	Mikus			00
	A151	5,297,626	03/1994	Vinegar et al.			
•	A152	5,306,640	04/1994	Vinegar et al.			
	A153	5,318,116	06/1194	Vinegar et al.		DE	CEIVED
•	A154	5,339,897	08/1994	Leaute			
	A155	5,340,467	08/1994	Gregoli et al.		N N	AY 0 6 2002
	A156	5,349,859	09/1994	Kleppe		GP	DUP 3600
	A157	5,388,640	02/1995	Puri et al.		Git	501 0000
	A158	5,388,641	02/1995	Yee et al.			
	A159	5,388,642	02/1995	Puri et al.			
	A160	5,388,643	02/1995	Yee et al.			
-	A161	5,388,645	02/1995	Puri et al.			
	A162	5,391,291	02/1995	Winquist et al.			
	A163	5,392,854	02/1995	Vinegar et al.			
	A164	5,404,952	04/1995	Vinegar et al.			
	A165	5,409,071	04/1995	Wellington et al.			
_	A166	5,411,089	05/1995	Vinegar et al.			
	A167	5,415,231	05/1995	Northrop et al.			
	A168	5,431,224	07/1995	Laali			
	A169	5,433,271	07/1995	Vinegar et al.			
	A170	5,437,506	08/1995	Gray			
	A171	5,439,054	08/1995	Chaback et al.			
	A172	5,454,666	10/1995	Chaback et al.			
	A173	5,497,087	03/1996	Vinegar et al.			
	A174	5,498,960	03/1996	Vinegar et al.			
	A175	5,525,322	06/1996	Willms			
7	A176	5,553,189	09/1996	Stegemeier et al.			
	A177	5,554,453	09/1996	Steinfeld et al.			
	A178		10/1996	Chaback et al.			

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		PADEMARY OF	U.S. PATENT	DOCUMENTS			-	$\Delta$	
EXAM. INITIALS	REF. DES.	DOCUMENT NUMBER	DATE	NAME	CLASS		SUB LASS	FILE OD A APPROPE	ATE IF
	A179	5,624,188	04/1997	West			<b>\( \)</b>	APPROPR	·//
	A180	5,656,239	08/1997	Stegemeier et al.			C	\$ 27	
	A181	5,676,212	10/1997	Kuckes			4	12 05	<u>ه</u> ک
•	A182	5,862,858	01/1999	Wellington et al.		ļ.,		90	
	A183	5,899,269	05/1999	Wellington et al.					
•	A184	5,968,349	10/1999	Duyvesteyn et al.		F	<u> </u>	EIVE	ED_
	A185	5,984,010	11/1999	Elias et al.			ΜΔΥ	0 6 200	2
	A186	5,985,138	11/1999	Humphreys			_		
	A187	5,997,214	12/1999	de Rouffignac et al.		G	RO	UP 31	OUU
	A188	6,016,867	01/2000	Gregoli et al.					
**	A189	6,016,868	01/2000	Gregoli et al.					
	A190	6,019,172	02/2000	Wellington et al.					
	A191	6,023,554	02/2000	Vinegar et al.					
····	A192	6,056,057	05/2000	Vinegar et al.					
	A193	6,079,499	06/2000	Mikus et al.					
	A194	6,085,512	07/2000	Agee et al.					
	A195	6,094,048	07/2000	Vinegar et al.					
	A196	6,102,122	08/2000	de Rouffignac					
	A197	6,102,622	08/2000	Vinegar et al.					
•	A198	6,152,987	11/2000	Ma et al.					
	A199	6,172,124	01/2001	Wolflick et al.					
_	A200	6,173,775 B1	01/2001	Elias et al.					
	A201	6,187,465	02/2001	Galloway					
<del> </del>	A202	Re. 30,738	09/1981	Bridges et al.					
	A203	Re. 35,696	12/1997	Mikus					
		F	OREIGN PATE	NT DOCUMENTS					•
EXAM. INITIALS	REF. DES.	DOCUMENT NUMBER	DATE	COUNTRY	C	LASS	SUB CLASS		NSLAT 'ES/NO
	A204	121,737	03/1948	Sweden					
	A205	123,136	11/1948	Sweden					

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FOREIGN PATENT DOCUMENTS

		RADEMARD	OREIGN LATER	T DOCUMENTS						
EXAM. NITIALS	REF. DES.	DOCUMENT NUMBER	DATE	COUNTRY	CLASS		TRANSLAT			
	A206	123,137	11/1948	Sweden						
	A207	123,138	11/1948	Sweden		> 4n	,			
	A208	126,674	11/1949	Sweden		C	P 1			
	A209	1,196,594	11/1985	CA		1	100			
-	A210	1,253,555	05/1989	CA		6	0			
•	A211	1,288,043	08/1991	CA						
	A212	156,396	01/1921	GB						
<u></u> ,	A213	674,082	06/1952	GB		-18/E	ח			
	A214	697,189	09/1953	GB	RE	CEIVE				
	A215	1,454,324	11/1976	GB	M	Y 0 6 20	<b>q</b> 2			
	A216	1,501,310	02/1978	GB	GR(	NIP ?	1.)			
	A217	2,086,416	05/1982	GB	un	<del>                                      </del>				
	A218	1836876	12/1994	SU		,				
	A219	0570228 B1	09/1996	EP						
	A220	99/01640	01/1999	WO						
	A221	95/06093	03/1995	WO						
<del> </del>	A222	95/12746	05/1995	WO						
	A223	95/33122	12/1995	WO						
	A224	95/12742	05/1995	WO						
•	A225	95/12743	05/1995	WO		_				
	A226	95/12744	05/1995	WO						
	A227	95/12745	05/1995	WO						
	<u> </u>	OTHER ART (I	ncluding Author,	Γitle, Date, Pertinent Page	s, Etc.)					
	A228	Some Effects of Pressure on O pp. 287-292.	il-Shale Retorting,"	Society of Petroleum Engir	neers Journal,	J.H. Bae, Se	ptember, 196			
	A229	New in situ shale-oil recovery	process uses hot na	tural gas; The Oil & Gas Jou	urnal; May 16	, 1966, p. 15	1.			
	A230	Evaluation of Downhole Electric Impedance Heating Systems for Paraffin Control in Oil Wells; Industry Applications Society 37 <sup>th</sup> Annual Petroleum and Chemical Industry Conference; The Institute of Electrical and Electronics Enginee Inc., Bosch et al., September 1990, pp. 223-227.								
	A231	New System Stops Paraffin Bu		Engineer, Eastlund et al., Jan	uary 1989, (3	pages).				
	A232	Oil Shale Retorting: Effects of Campbell et al. In Situ 2(1), 19		eating Rate on Oil Evolutio	n and Intrapa	rticle Oil De	gradation;			

#### **EXAMINER:**

## DATE CONSIDERED:

Form PTO-1449 (modified) ATTY. DKT. NO. 5659-03500/7 SERIAL NO. 09/841,240 List of Patents and Publications ! For Applicant's Information APPLICANT: Wellington, et al. GROUP: 1764 JAN 0 3 2002 Disclosure Statement (Use several sheets if necessary) FILING DATE: April 24, 2001 OTHER ARE (Including Author, Title, Date, Pertinent Pages, Etc.) The Potential For In Situ Retorting of Oil Shale In the Piceance Creek Basin of Northwestern Colorado; Quarterly of the Colorado School of Mines, pp. 57-72. Retoring Oil Shale Underground-Problems & Possibilities; B.F. Grant, Otly of Colorado School of Mines. A234 A235 Molecular Mechanism of Oil Shale Pyrolysis in Nitrogen and Hydrogen Atmospheres, Hershkowitz Geochemistry and Chemistry of Oil Shales, American Chemical Society, 5/1983 pp. 301-316. The Characteristics of a Low Temperature in Situ Shale Oil; George Richard Hill & Paul Dougan, Quarterly of the A236 Colorado School of Mines, 1967; pp. 75-90. Direct Production Of A Low Pour Point High Gravity Shale Oil; Hill et al., I & EC Product Research and Development, 6(1), March 1967; pp. 52-59. A238 Refining Of Swedish Shale Oil, L. Lundquist, pp. 621-627. The Benefits of In Situ Upgrading Reactions to the Integrated Operations of the Orinoco Heavy-Oil Fields and Downstream Facilities, Myron Kuhlman, Society of Petroleum Engineers, June 2000; pp. 1-14. Monitoring Oil Shale Retorts by Off-Gas Alkene/Alkane Ratios, John H. Raley, Fuel, Vol. 59, June 1980, pp. 419-42 A240 A241 The Shale Oil Question, Old and New Viewpoints, A Lecture in the Engineering Science Academy, Dr. Fredrik Ljungstrom, February 23, 1950, published in Teknisk Trdskrift, January 1951 p. 33-40. Underground Shale Oil Pyrolysis According to the Ljungstroem Method; Svenska Skifferolie Aktiebolaget (Swedish Shale Oil Corp.), IVA, Vol. 24, 1953, No. 3, pp. 118-123. Kinetics of Low-Temperature Pyrolysis of Oil Shale by the IITRI RF Process, Sresty et al.; 15<sup>th</sup> Oil Shale Symposium Colorado School of Mines, April 1982 pp. 1-13. Bureau of Mines Oil-Shale Research, H.M. Thorne, Quarterly of the Colorado School of Mines, pp. 77-90. Application of a Microretort to Problems in Shale Pyrolysis, A. W. Weitkamp & L.C. Gutberlet, Ind. Eng. Chem. Process Des. Develop. Vol. 9, No. 3, 1970, pp. 386-395. Oil Shale, Yen et al., Developments in Petroleum Science 5, 1976, pp. 187-189, 197-198. A246 The Composition of Green River Shale Oils, Glenn L. Cook, et al., United Nations Symposium on the Development and Utilization of Oil Shale Resources, 1968, pp. 1-23. High-Pressure Pyrolysis of Green River Oil Shale, Burnham et al., Geochemistry and Chemistry of Oil Shales, A248 American Chemical Society, 1983, pp. 335-351. Geochemistry and Pyrolysis of Oil Shales, Tissot et al., Geochemistry and Chemistry of Oil Shales, American Chemic A249 Society, 1983, pp. 1-11. A250 A Possible Mechanism of Alkene/Alkane Production, Burnham et al., Oil Shale, Tar Sands, and Related Materials, American Chemical Society, 1981, pp. 79-92. The Ljungstroem In-Situ Method of Shale Oil Recovery, G. Salomonsson, Oil Shale and Cannel Coal, Vol. 2, Proceedings of the Second Oil Shale and Cannel Coal Conference, Institute of Petroleum, 1951, London, pp. 260-280 Developments in Technology for Green River Oil Shale, G.U. Dinneen, United Nations Symposium on the Development and Utilization of Oil Shale Resources, Laramie Petroleum Research Center, Bureau of Mines, 1968, A253 The Thermal and Structural Properties of a Hanna Basin Coal, R.E. Glass, Transactions of the ASME, Vol. 106, June 1984, pp. 266-271.

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Proposed Field Test of the Lins Method Thermal Oil Recovery Process in Athabasca McMurray Tar Sands, Husky

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the patent own

al., Fuel, Vol. 43, No. 4, July 1964, pp. 267-280.